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Daylight and Sunlight Study (Neighbouring Properties)

24 to 32 Stephenson Way, Euston, London NW1 2HD

10 September 2019

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CONTENTS

1 EXECUTIVE SUMMARY

1.1 Overview

1.1.1 Right of Light Consulting has been commissioned by Due West Limited to undertake a daylight and sunlight study of the proposed development at 24 to 32 Stephenson Way, Euston, London NW1 2HD.

1.1.2 The study is based on the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011.

1.1.3 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring residential properties at 158 to 172 North Gower Street, 81 to 103, 105 to 111, 115 & 117 Euston Street and 18 to 22 Stephenson Way.

1.1.4 The window key in Appendix 1 identifies the windows analysed in this study. Appendices 2 & 3 gives the numerical results of the various daylight and sunlight tests. Where room layouts are not known the daylight distribution test has not been undertaken.

1.1.5 In summary, the numerical results in this study demonstrate that the proposed development will have a low impact on the light receivable by its neighbouring properties. The only two windows which do not pass the BRE numerical tests are situated underneath external staircases. The BRE guide explains that one way to demonstrate that the obstructions to the window are the main factor in loss of light is to carry out an additional calculation without these in place. In this instance, the windows pass the test using the additional calculation with the existing obstructions removed. This demonstrates that the development is a modest obstruction and it is the presence of the staircases, rather than the size of the new obstruction, which causes an unavoidable reduction in daylight. Therefore, in our opinion, the proposed development has an acceptable impact on the daylight and sunlight amenity of the neighbouring properties.

2 INFORMATION SOURCES

2.1 Documents Considered

2.1.1 This report is based on the following drawings:

Work Place Designs

LP.01	Location Plan	Rev –
B.01	Basement Floor GA and NIA Plan Survey as Existing	Rev –
G.01	Ground Floor GA and NIA Plan Survey as Existing	Rev –
1.01	First Floor GA and NIA Plan Survey as Existing	Rev –
2.01	Second Floor GA and NIA Plan Survey as Existing	Rev –
3.01	Third Floor GA and NIA Plan Survey as Existing	Rev –
4.01	Fourth Floor GA and NIA Plan Survey as Existing	Rev –
R.01	Roof Plan General Arrangement Survey as Existing	Rev –
EL.01	Front Elevation Survey as Existing	Rev –
EL.02	Rear Elevation Survey as Existing	Rev –
EL.03	Light Elevations as Existing	Rev –
SE.01	Section A-A Survey as Existing	Rev –
SE.02	Section B-B Survey as Existing	Rev –
SE.03	Section C-C Survey as Existing	Rev –

Robin Lee Architecture

D.111	First Floor Plan Proposed	Rev –
D.112	Second Floor Plan_Proposed	Rev –
D.113	Third Floor Plan_Proposed	Rev –
D.114	Fourth Floor Plan_Proposed	Rev –
D.115	Fifth Floor Plan_Proposed	Rev –
D.116	Roof Plan_Proposed	Rev –
D.120	Section AA_Proposed	Rev –
D.121	Section BB_Proposed	Rev –
D.122	Section CC_Proposed	Rev –
D.123	Section DD_Proposed	Rev –
D.124	Section EE_Proposed	Rev –
D.125	Section FF_Proposed	Rev –

3 METHODOLOGY OF THE STUDY

3.1 Local Planning Policy

3.1.1 We understand that the Local Authority take the conventional approach of considering daylight and sunlight amenity with reference to the various numerical tests laid down in the Building Research Establishment (BRE) guide 'Site Layout Planning for Daylight and Sunlight: a guide to good practice, 2nd Edition' by P J Littlefair 2011. A new European standard BS EN 17037 'Daylight in Buildings' was published in May 2019. An update to the BRE guide to take into account the European standard is not anticipated until sometime in 2020. It is not yet clear, how and to what extent, the European recommendations will be adopted by the BRE and Local Authorities.

3.1.2 The standards set out in the BRE guide are intended to be used flexibly. The BRE guide states:

3.1.3 "The guide is intended for building designers and their clients, consultants and planning officials. The advice given here is not mandatory and the guide should not be seen as an instrument of planning policy; its aim is to help rather than constrain the designer. Although it gives numerical guidelines, these should be interpreted flexibly, since natural lighting is only one of many factors in site layout design."

3.2 National Planning Policy Framework

3.2.1 The BRE numerical guidelines should be considered in the context of the National Planning Policy Framework (NPPF), which stipulates that local planning authorities should take a flexible approach to daylight and sunlight to ensure the efficient use of land. The NPPF states:

3.2.2 "Local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework. In this context, when considering applications for housing, authorities should take a flexible approach in applying policies or guidance relating to daylight and sunlight, where they would otherwise inhibit making efficient use of a site (as long as the resulting scheme would provide acceptable living standards)."

3.3 Daylight to Windows

3.3.1 Diffuse daylight is the light received from the sun which has been diffused through the sky. Even on a cloudy day, when the sun is not visible, a room will continue to be lit with light from the sky. This is diffuse daylight.

3.3.2 Diffuse daylight calculations should be undertaken to all rooms within domestic properties, where daylight is required, including living rooms, kitchens and bedrooms. The BRE guide states that windows to bathrooms, toilets, storerooms, circulation areas and garages need not be analysed. These room types are non-habitable and do not have a requirement for daylight.

3.3.3 The BRE guide states that the tests may also be applied to non-domestic buildings where there is a reasonable expectation of daylight. The BRE guide explains that this would normally include schools, hospitals, hotels and hostels, small workshops and some offices. The BRE guide is not explicit in terms of which types of offices it regards as having a requirement for daylight. However, it is widely accepted amongst consultants and local authorities, that for planning purposes, offices (which are commercial in nature) do not have a requirement for daylight. The point is touched on in the 'Daylighting and Sunlighting' guidance note published by the Royal Institution of Chartered Surveyors (RICS), which gives guidance to surveyors on how to produce their reports:

3.3.4 "The report should establish the limits of the assessment. For example, existing commercial premises are rarely assessed for loss of amenity."

3.3.5 The BRE guide contains two tests which measure diffuse daylight:

3.3.6 Test 1 <u>Vertical Sky Component</u>

The percentage of the sky visible from the centre of a window is known as the Vertical Sky Component. Diffuse daylight may be adversely affected if after a development the Vertical Sky Component is both less than 27% and less than 0.8 times its former value.

3.3.7 Test 2 Daylight Distribution

The distribution of daylight within a room can be calculated by plotting the 'no sky line'. The no sky line is a line which separates areas of the working plane that do and do not have a direct view of the sky. Daylight may be adversely affected if, after the development, the area of the working plane in a room which can receive direct skylight is reduced to less than 0.8 times its former value.

3.3.8 The BRE guide states that both the total amount of skylight (Vertical Sky Component) and its distribution within the building (Daylight Distribution) are important. The BRE guide states that where room layouts are known, the impact on the daylighting distribution can be found by plotting the 'no sky line' in each of the main rooms. Therefore, we are of the opinion that application of the test is not a requirement of the BRE guide where room layouts are not known. We don't endorse the practice of applying the test based on assumed room layouts, because the test is very sensitive to the size and layout of the room and the results are likely to be misleading. However, we can provide additional daylight distribution data upon request by the local authority, if neighbouring room layout information is confirmed.

3.4 Sunlight availability to Windows

3.4.1 The BRE sunlight tests should be applied to all main living rooms and conservatories which have a window which faces within 90 degrees of due south. The guide states that kitchens and bedrooms are less important, although care should be taken not to block too much sunlight. The tests should also be applied to non-domestic buildings where there is a particular requirement for sunlight.

3.4.2 The BRE guide states that sunlight availability may be adversely affected if the centre of the window:

- receives less than 25% of annual probable sunlight hours, or less than 5% of annual probable sunlight hours between 21 September and 21 March and
- receives less than 0.8 times its former sunlight hours during either period and
- has a reduction in sunlight received over the whole year greater than 4% of annual probable sunlight hours.

3.5 Overshadowing to Gardens and Open Spaces

3.5.1 The availability of sunlight should be checked for all open spaces where sunlight is required. This would normally include:

- Gardens, usually the main back garden of a house
- Parks and playing fields
- Children's playgrounds
- Outdoor swimming pools and paddling pools
- Sitting out areas, such as those between non-domestic buildings and in public squares
- Focal points for views such as a group of monuments or fountains.

3.5.2 One way to consider overshadowing is by preparing shadow plots. However, the BRE guide states that it must be borne in mind that nearly all structures will create areas of new shadow, and some degree of transient overshadowing is to be expected. Therefore, shadow plots are of limited use as interpretation of the plots is subjective. Shadow plots have not been undertaken as part of this study.

3.5.3 The BRE guide also contains an objective overshadowing test which has been adopted for the purpose of this study. This guide recommends that at least 50% of the area of each amenity space listed above should receive at least two hours of sunlight on 21 March. If as a result of new development an existing garden or amenity area does not meet the above, and the area which can receive two hours of sunlight on 21 March is less than 0.8 times its former value, then the loss of light is likely to be noticeable.

4 RESULTS OF THE STUDY

4.1 Windows & Amenity Areas Considered

4.1.1 The aim of the study is to assess the impact of the development on the light receivable by the neighbouring properties at 158 to 172 North Gower Street, 81 to 103, 105 to 111, 115 & 117 Euston Street and 18 to 22 Stephenson Way.

4.1.2 Appendix 1 provides a plan and photographs to indicate the positions of the windows analysed in this study.

4.1.3 Appendix 2 lists the detailed numerical daylight and sunlight test results. The results are interpreted below.

4.2 Daylight to Windows

4.2.1 Vertical Sky Component

4.2.2 All main habitable room windows tested pass the Vertical Sky Component test with the exception of windows 32 & 45 at 162 North Gower Street. These windows both experience before/after ratios of 0.77, only marginally short of the BRE recommendation of 0.8. Furthermore, these windows are obstructed by the external staircases in front of them. The BRE guide acknowledges that existing windows with obstructions above them typically receive less daylight as the balcony cuts out light from the top part of the sky and that even a modest obstruction opposite may result in a large relative impact on the VSC. The guide goes on to explain that an additional calculation may be carried out assuming that the obstructions do not exist. If the windows meet the targets on this basis then this confirms that it is the obstruction that prevents the targets from being met as opposed to an unreasonable level of obstruction caused by the development. Both windows 32 & 45 pass the Vertical Sky Component test without the overhanging balconies in place (see Appendix 3).

4.3 Sunlight to Windows

4.3.1 All windows which face within 90 degrees of due south have been tested for direct sunlight. However, all the properties that have windows that face within 90 degrees of due south, appear to be non-domestic in nature. Since the direct sunlight hours targets stated in the BRE guide are only intended to be applied to main living room

windows it follows that the proposed development therefore satisfies the BRE direct sunlight to windows requirements.

4.4 Overshadowing to Gardens and Open Spaces

4.4.1 There are no nearby gardens or amenity areas directly to the north of the development. The proposed development will therefore not create any new areas which receive less than two hours of sunlight on 21 March. The proposed development therefore satisfies the BRE overshadowing to gardens and open spaces requirements.

4.5 Conclusion

4.5.1 In summary, the numerical results in this study demonstrate that the proposed development will have a low impact on the light receivable by its neighbouring properties. The only two windows which do not pass the BRE numerical tests are situated underneath external staircases. The BRE guide explains that one way to demonstrate that the obstructions to the window are the main factor in loss of light is to carry out an additional calculation without these in place. In this instance, the windows pass the test using the additional calculation with the existing obstructions removed. This demonstrates that the development is a modest obstruction and it is the presence of the staircases, rather than the size of the new obstruction, which causes an unavoidable reduction in daylight. Therefore, in our opinion, the proposed development has an acceptable impact on the daylight and sunlight amenity of the neighbouring properties.

5 CLARIFICATIONS

5.1 General

5.1.1 The report provided is solely for the use of the client and no liability to anyone else is accepted.

5.1.2 The study is limited to assessing daylight, sunlight and overshadowing to neighbouring properties as set out in section 2.2, 3.2 and 3.3 of the BRE Guide.

5.1.3 The study has been undertaken following access to the proposed development site. We have not had access to neighbouring properties. The study is based on the information listed in section 2 of this report.

5.1.4 This study does not calculate the effects of trees and hedges on daylight, sunlight and overshadowing to gardens. The BRE guide states that it is usual to ignore the effect of existing trees.

5.1.5 We have undertaken the study following the guidelines of the RICS publication "Surveying Safely". Where limited access or information is available, assumptions will have been made which may affect the conclusions reached in this report. For example, where neighbouring room uses are not known, we will either make an assumption regarding the use, or take the prudent approach of treating the use of the room as being used for domestic purposes. Therefore, the report may need to be updated if room uses are confirmed by the local authority or by the consultation responses.

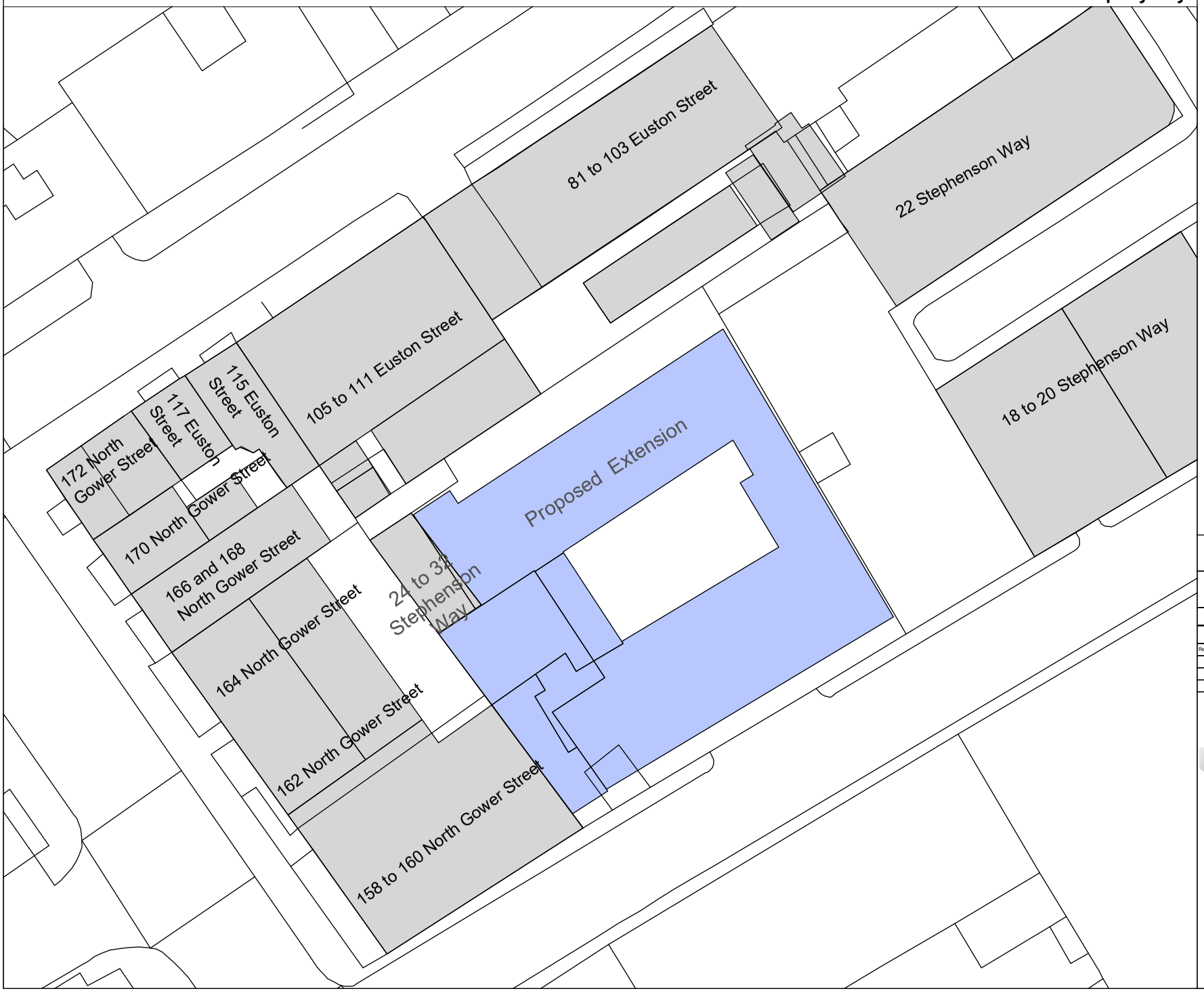
5.1.6 This report is based upon and subject to the scope of work set out in Right of Light Consulting's quotation and standard terms and conditions.

APPENDICES

APPENDIX 1

WINDOW & GARDEN KEY

Property Key



Key

- Development site
- Neighbouring Properties

Project Name: 24 to 32 Stephenson Way, London NW1 2HD

Drawing Title: Property Key

Scale: Do not scale

Drawing No: 1 of 5

Rev: –

Rev	Date	Details of revision

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Window Key

Key

- Development site
- Neighbouring Properties
- Window reference

Project Name: 24 to 32 Stephenson Way, London NW1 2HD

Drawing Title: Neighbouring Windows

Scale: Do not scale

Drawing No: 2 of 5

Rev: –

Rev	Date	Details of revision

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Window Key

Key

- Development site
- Neighbouring Properties
- Window reference

Project Name: 24 to 32 Stephenson Way, London NW1 2HD

Drawing Title: Neighbouring Windows

Scale: Do not scale

Drawing No: 3 of 5

Rev: –

Rev	Date	Details of revision

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Window Key

Key

- Development site
- Neighbouring Properties
- Window reference

Project Name: 24 to 32 Stephenson Way, London NW1 2HD

Drawing Title: Neighbouring Windows

Scale: Do not scale

Drawing No: 4 of 5

Rev: –

Rev	Date	Details of revision

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Window Key

Key

- Development site
- Neighbouring Properties
- Window reference

Project Name: 24 to 32 Stephenson Way, London NW1 2HD

Drawing Title: Neighbouring Windows

Scale: Do not scale

Drawing No: 5 of 5

Rev: –

Rev	Date	Details of revision

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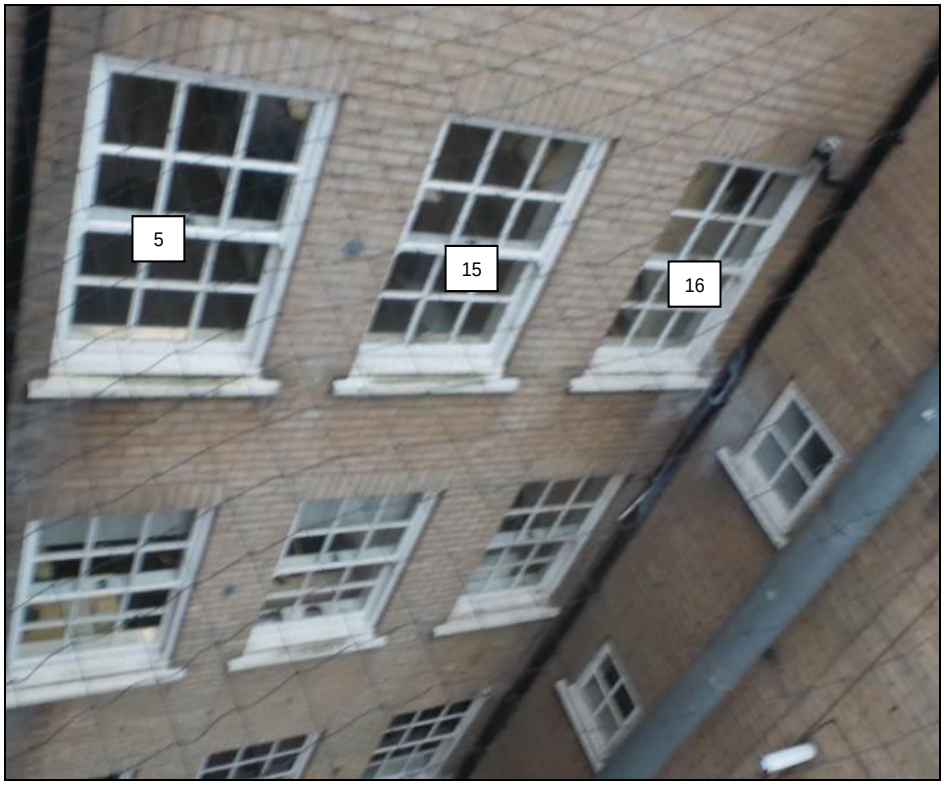
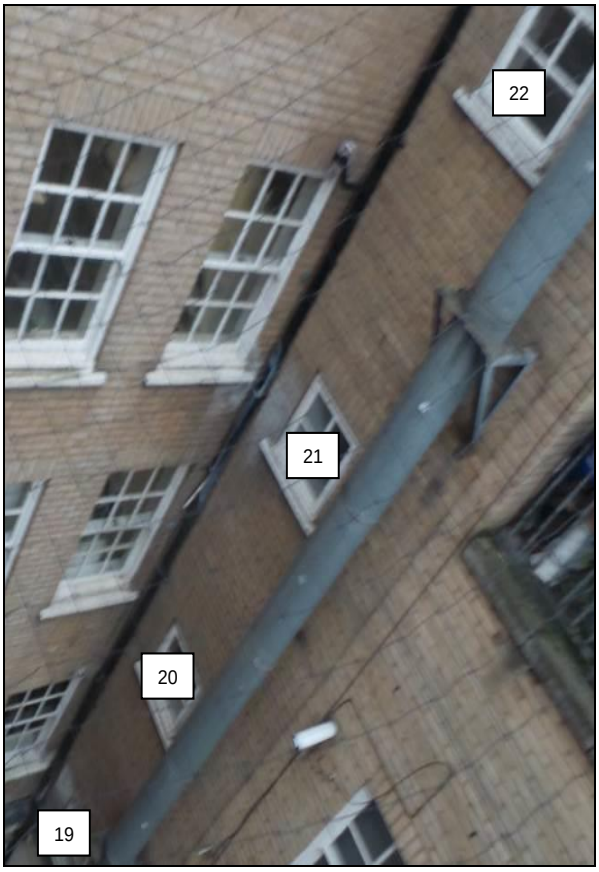
Neighbouring Windows

158 to 160 North Gower Street



158 to 160 North Gower Street

158 to 160 North Gower Street



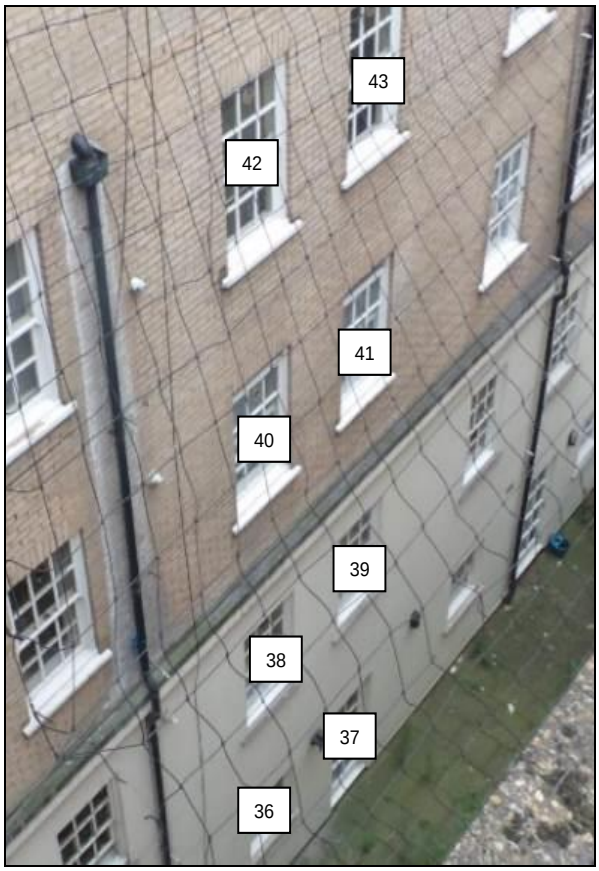
158 to 160 North Gower Street

158 to 160 North Gower Street

162 North Gower Street

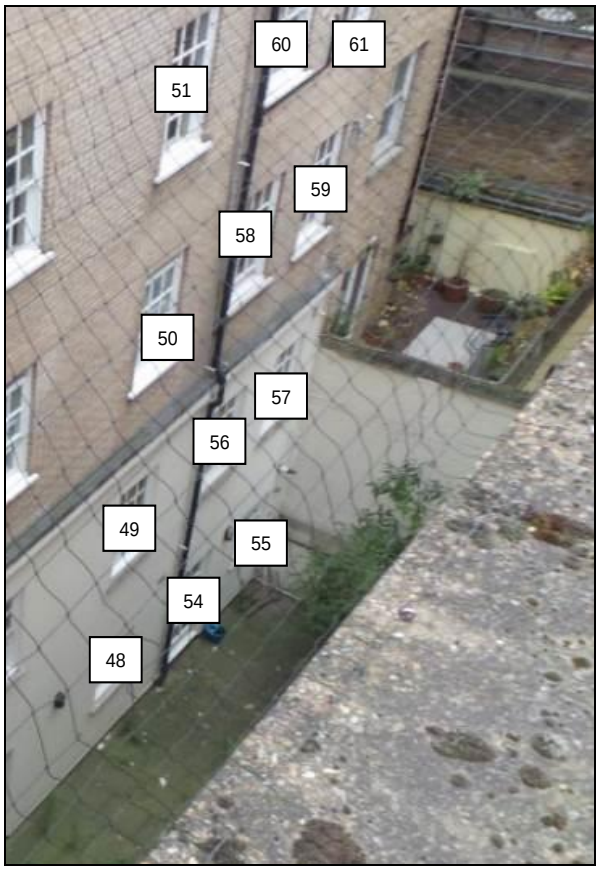
162 North Gower Street

162 North Gower Street



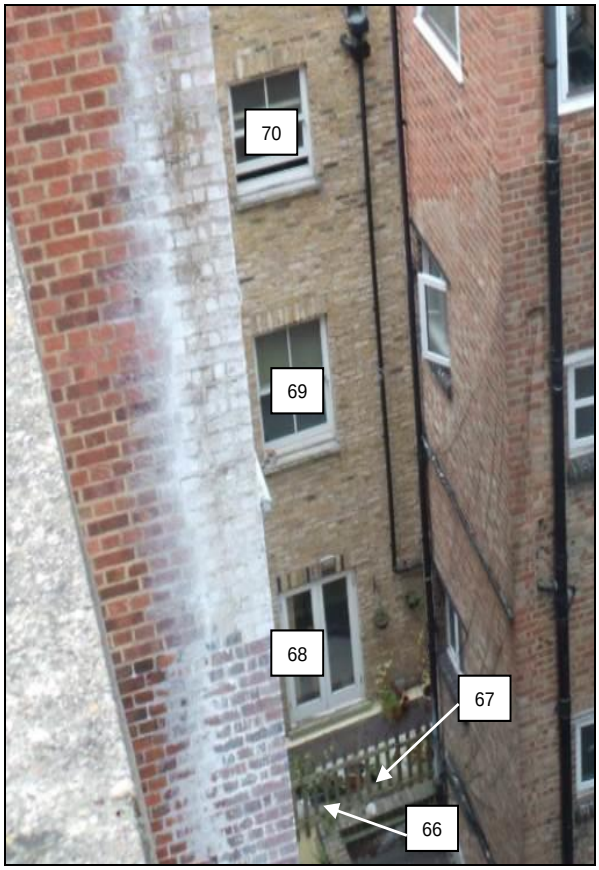
162 North Gower Street

162 North Gower Street



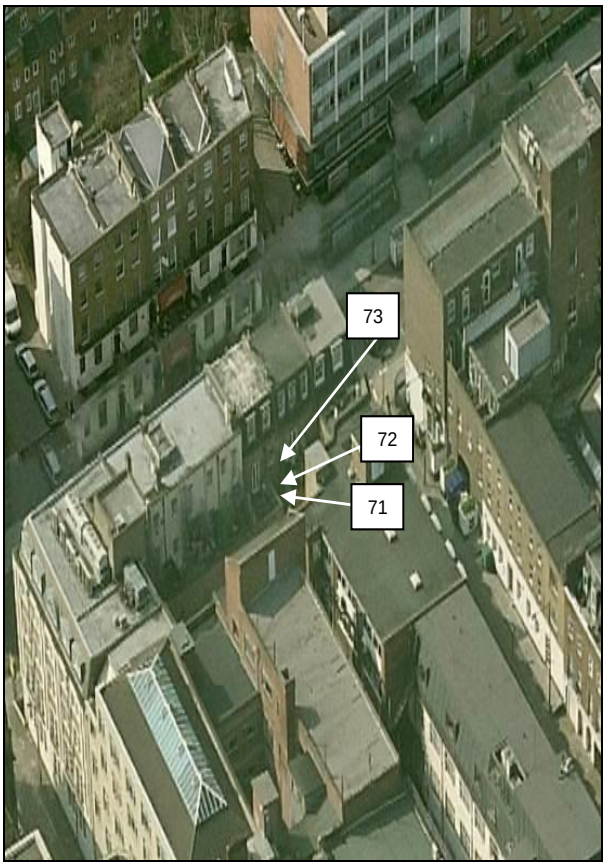
164 North Gower Street

164 North Gower Street



166 and 168 North Gower Street

166 and 168 North Gower Street

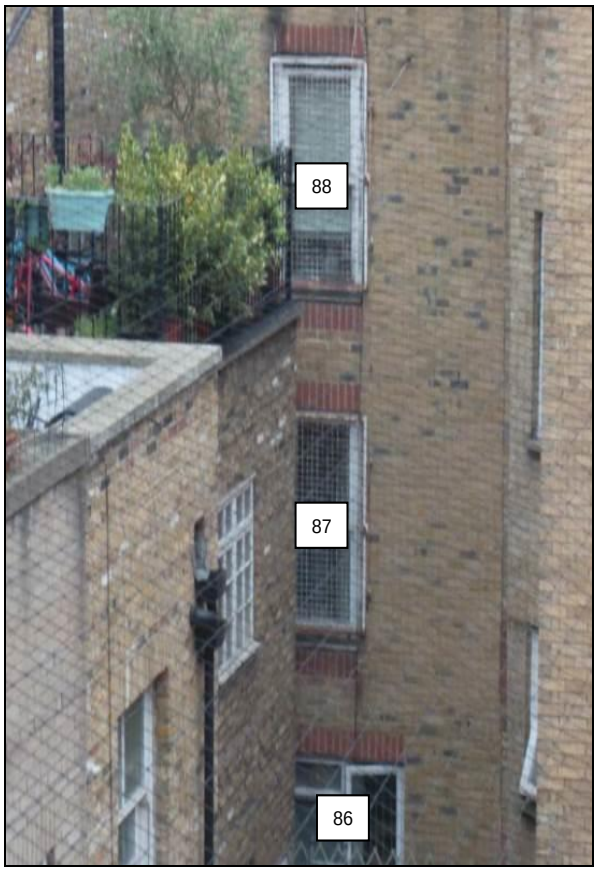


166 and 168 North Gower Street

170 North Gower Street

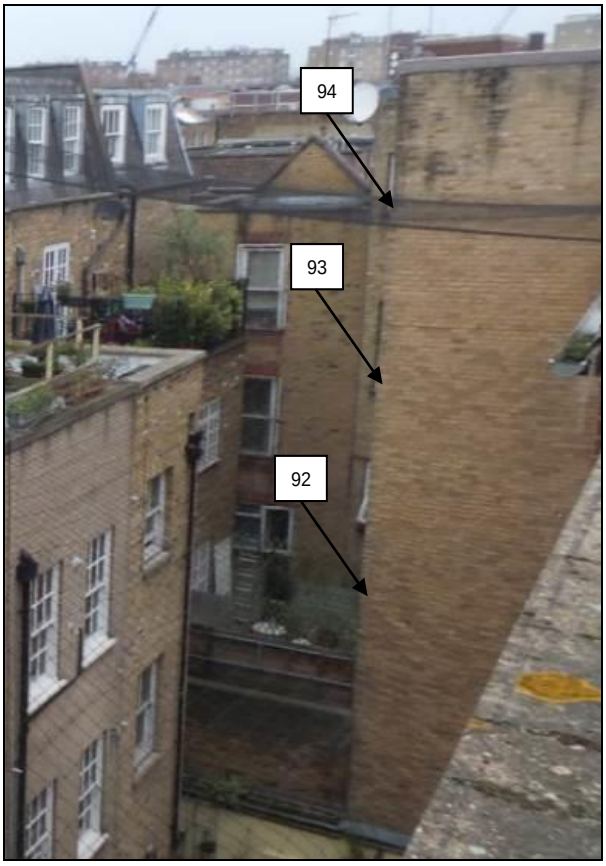
170 North Gower Street

172 North Gower Street



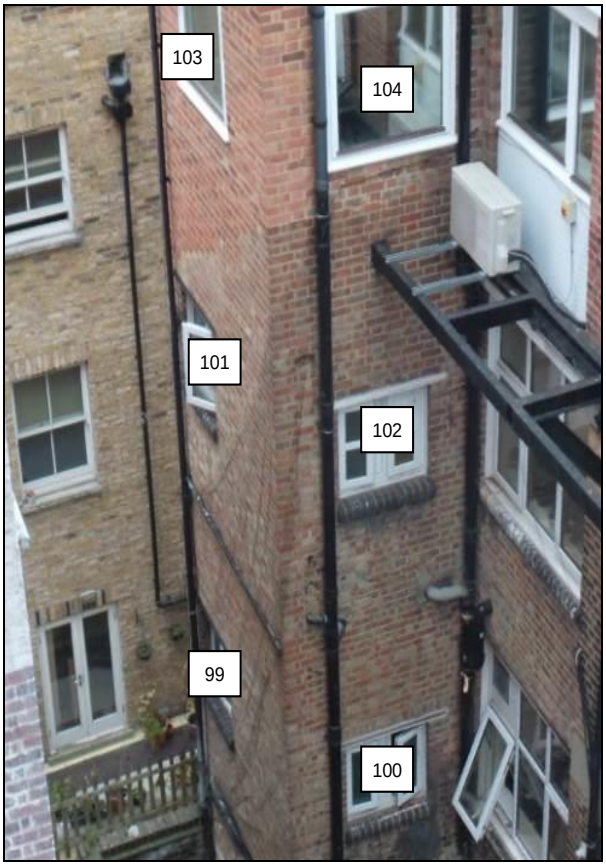
117 Euston Street

115 Euston Street

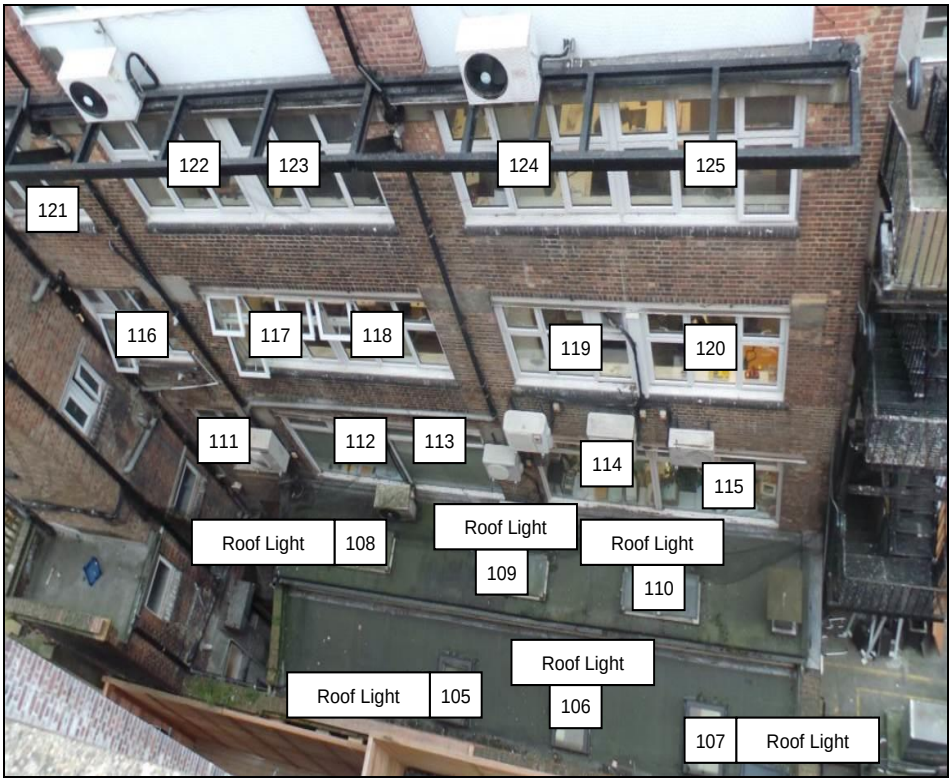


115 Euston Street

105 to 111 Euston Street



105 to 111 Euston Street



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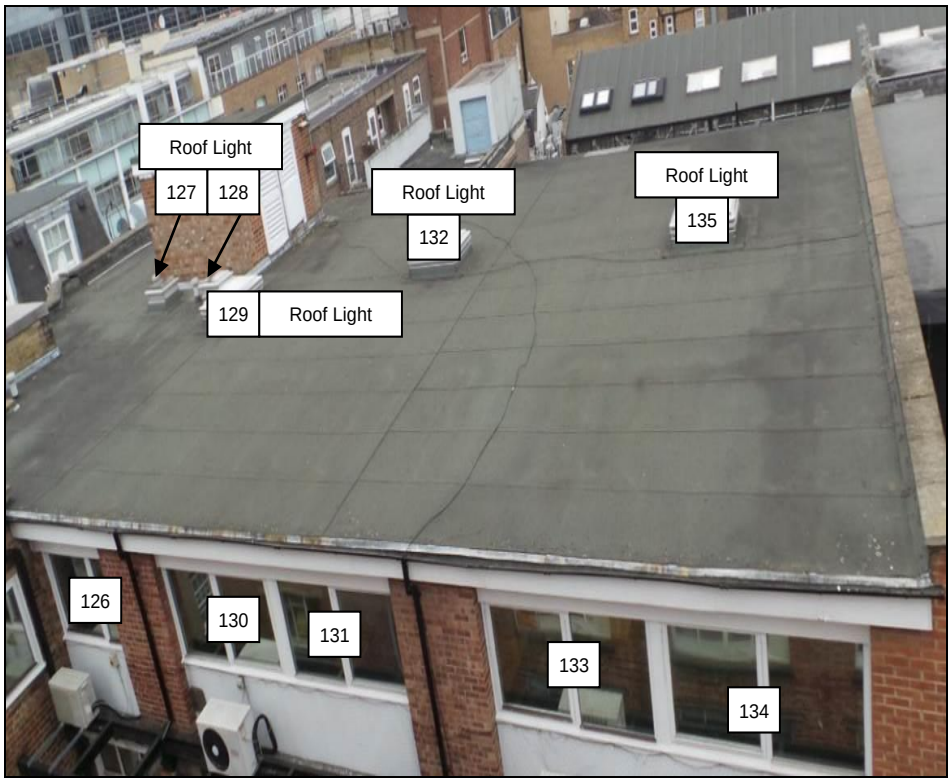


105 to 111 Euston Street

81 to 103 Euston Street

81 to 103 Euston Street

81 to 103 Euston Street

81 to 103 Euston Street

81 to 103 Euston Street

81 to 103 Euston Street

22 Stephenson Way

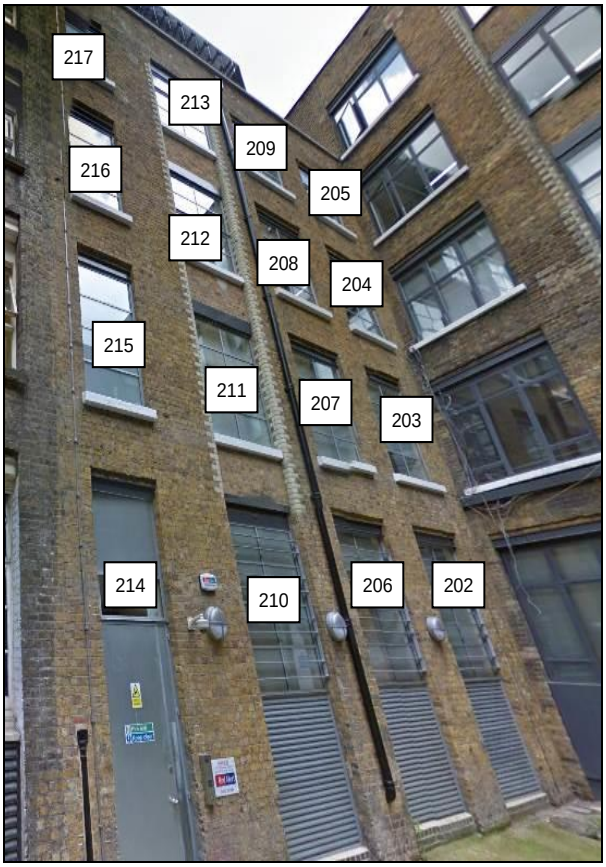
22 Stephenson Way

22 Stephenson Way

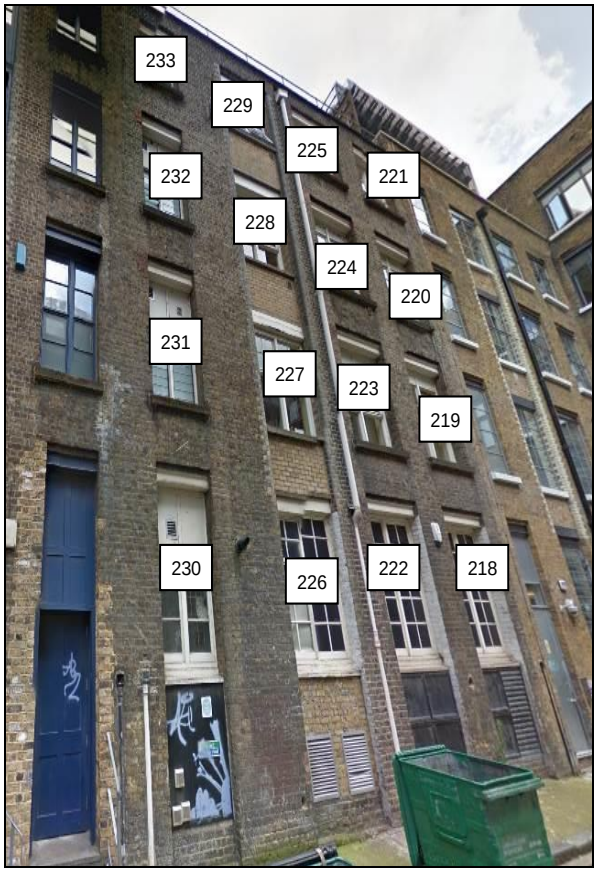
22 Stephenson Way

22 Stephenson Way

22 Stephenson Way



18 to 20 Stephenson Way



18 to 20 Stephenson Way

APPENDIX 2

DAYLIGHT AND SUNLIGHT RESULTS

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
158 to 160 North Gower Street					
Window 1	Non Domestic	5.0%	5.0%	0.0%	1.0
Window 2	Non Domestic	7.1%	7.1%	0.0%	1.0
Window 3	Non Domestic	10.7%	10.7%	0.0%	1.0
Window 4	Non Domestic	15.7%	15.6%	0.1%	0.99
Window 5	Non Domestic	21.9%	21.4%	0.5%	0.98
Window 6	Non Domestic	32.1%	29.6%	2.5%	0.92
Window 7	Non Domestic	5.0%	5.0%	0.0%	1.0
Window 8	Non Domestic	4.6%	4.5%	0.1%	0.98
Window 9	Non Domestic	7.0%	6.9%	0.1%	0.99
Window 10	Non Domestic	6.3%	6.3%	0.0%	1.0
Window 11	Non Domestic	10.7%	10.6%	0.1%	0.99
Window 12	Non Domestic	9.1%	9.0%	0.1%	0.99
Window 13	Non Domestic	17.0%	16.8%	0.2%	0.99
Window 14	Non Domestic	12.9%	12.2%	0.7%	0.95
Window 15	Non Domestic	23.5%	22.5%	1.0%	0.96
Window 16	Non Domestic	16.7%	15.5%	1.2%	0.93
Window 17	Non Domestic	30.0%	28.0%	2.0%	0.93
Window 18	Non Domestic	20.4%	18.9%	1.5%	0.93
Window 19	Non Domestic	2.7%	2.6%	0.1%	0.96
Window 20	Non Domestic	5.5%	4.9%	0.6%	0.89
Window 21	Non Domestic	10.8%	8.8%	2.0%	0.81
Window 22	Non Domestic	17.6%	13.5%	4.1%	0.77
Window 23	Non Domestic	27.8%	24.1%	3.7%	0.87
162 North Gower Street					
Window 24	Domestic	1.9%	1.9%	0.0%	1.0
Window 25	Domestic	2.2%	2.2%	0.0%	1.0
Window 26	Domestic	3.3%	3.3%	0.0%	1.0
Window 27	Domestic	3.7%	3.6%	0.1%	0.97
Window 28	Domestic	6.4%	6.0%	0.4%	0.94
Window 29	Domestic	7.0%	6.6%	0.4%	0.94
Window 30	Domestic	11.6%	10.5%	1.1%	0.91
Window 31	Domestic	12.8%	11.5%	1.3%	0.9
Window 32	Domestic	9.5%	7.3%	2.2%	0.77
Window 33	Domestic	23.6%	20.7%	2.9%	0.88
Window 34	Domestic	23.3%	21.0%	2.3%	0.9
Window 35	Domestic	29.0%	26.4%	2.6%	0.91
Window 36	Domestic	2.4%	2.4%	0.0%	1.0
Window 37	Domestic	2.7%	2.7%	0.0%	1.0
Window 38	Domestic	4.1%	4.1%	0.0%	1.0

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 39	Domestic	4.4%	4.4%	0.0%	1.0
Window 40	Domestic	7.7%	7.4%	0.3%	0.96
Window 41	Domestic	8.1%	7.8%	0.3%	0.96
Window 42	Domestic	13.7%	12.3%	1.4%	0.9
Window 43	Domestic	14.1%	12.7%	1.4%	0.9
Window 44	Domestic	26.4%	23.3%	3.1%	0.88
Window 45	Domestic	10.5%	8.1%	2.4%	0.77
Window 46	Domestic	32.9%	30.2%	2.7%	0.92
Window 47	Domestic	32.9%	30.4%	2.5%	0.92
164 North Gower Street					
Window 48	Domestic	3.5%	3.5%	0.0%	1.0
Window 49	Domestic	5.6%	5.6%	0.0%	1.0
Window 50	Domestic	9.7%	9.4%	0.3%	0.97
Window 51	Domestic	15.9%	14.5%	1.4%	0.91
Window 52	Domestic	30.2%	28.1%	2.1%	0.93
Window 53	Domestic	34.6%	32.8%	1.8%	0.95
Window 54	Domestic	5.4%	5.4%	0.0%	1.0
Window 55	Domestic	6.5%	6.5%	0.0%	1.0
Window 56	Domestic	7.7%	7.6%	0.1%	0.99
Window 57	Domestic	10.4%	10.4%	0.0%	1.0
Window 58	Domestic	11.9%	11.7%	0.2%	0.98
Window 59	Domestic	14.5%	14.4%	0.1%	0.99
Window 60	Domestic	18.2%	17.0%	1.2%	0.93
Window 61	Domestic	20.6%	19.6%	1.0%	0.95
Window 62	Domestic	30.4%	28.5%	1.9%	0.94
Window 63	Domestic	16.9%	15.6%	1.3%	0.92
Window 64	Domestic	35.2%	33.7%	1.5%	0.96
Window 65	Domestic	35.0%	33.7%	1.3%	0.96
166 and 168 North Gower Street					
Window 66	Domestic	3.6%	3.6%	0.0%	1.0
Window 67	Domestic (Secondary)	1.1%	1.1%	0.0%	1.0
Window 68	Domestic	9.7%	9.7%	0.0%	1.0
Window 69	Domestic	13.2%	12.9%	0.3%	0.98
Window 70	Domestic	20.3%	19.4%	0.9%	0.96
Window 71	Domestic	3.0%	3.0%	0.0%	1.0
Window 72	Domestic	4.9%	4.9%	0.0%	1.0
Window 73	Domestic	9.2%	9.2%	0.0%	1.0
Window 74	Domestic	30.5%	29.3%	1.2%	0.96
Window 75	Domestic	31.8%	30.8%	1.0%	0.97
Window 76	Domestic	36.0%	34.9%	1.1%	0.97

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 77	Domestic	36.3%	35.4%	0.9%	0.98
170 North Gower Street					
Window 78	Domestic	5.1%	4.7%	0.4%	0.92
Window 79	Domestic	11.0%	10.4%	0.6%	0.95
Window 80	Domestic	32.1%	31.2%	0.9%	0.97
Window 81	Domestic	36.6%	35.8%	0.8%	0.98
Window 82	Domestic	36.8%	36.1%	0.7%	0.98
Window 83	Domestic	37.0%	36.3%	0.7%	0.98
172 North Gower Street					
Window 84	Domestic	37.3%	36.7%	0.6%	0.98
Window 85	Domestic	37.7%	37.2%	0.5%	0.99
117 Euston Street					
Window 86	Domestic	4.1%	3.9%	0.2%	0.95
Window 87	Domestic	12.0%	11.9%	0.1%	0.99
Window 88	Domestic	25.5%	24.8%	0.7%	0.97
115 Euston Street					
Window 89	Non Domestic	5.8%	5.8%	0.0%	1.0
Window 90	Non Domestic	12.4%	12.4%	0.0%	1.0
Window 91	Non Domestic	22.7%	22.7%	0.0%	1.0
Window 92	Non Domestic	4.9%	4.9%	0.0%	1.0
Window 93	Non Domestic	12.6%	12.6%	0.0%	1.0
Window 94	Non Domestic	23.8%	23.8%	0.0%	1.0
105 to 111 Euston Street					
Window 95	Non Domestic	3.4%	3.3%	0.1%	0.97
Window 96	Non Domestic	1.5%	1.5%	0.0%	1.0
Window 97	Non Domestic	9.2%	9.1%	0.1%	0.99
Window 98	Non Domestic	7.9%	7.7%	0.2%	0.97
Window 99	Non Domestic	8.0%	7.8%	0.2%	0.98
Window 100	Non Domestic	10.1%	9.7%	0.4%	0.96
Window 101	Non Domestic	12.6%	12.2%	0.4%	0.97
Window 102	Non Domestic	13.8%	13.1%	0.7%	0.95
Window 103	Non Domestic	20.2%	19.3%	0.9%	0.96
Window 104	Non Domestic	22.8%	21.8%	1.0%	0.96
Window 105	Non Domestic	22.1%	22.0%	0.1%	1.0
Window 106	Non Domestic	23.4%	23.2%	0.2%	0.99
Window 107	Non Domestic	24.9%	24.6%	0.3%	0.99
Window 108	Non Domestic	23.7%	23.2%	0.5%	0.98
Window 109	Non Domestic	26.3%	25.7%	0.6%	0.98

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 110	Non Domestic	27.7%	27.0%	0.7%	0.97
Window 111	Non Domestic	3.9%	3.6%	0.3%	0.92
Window 112	Non Domestic	5.6%	5.2%	0.4%	0.93
Window 113	Non Domestic	5.9%	5.5%	0.4%	0.93
Window 114	Non Domestic	6.0%	5.5%	0.5%	0.92
Window 115	Non Domestic	5.8%	5.2%	0.6%	0.9
Window 116	Non Domestic	5.3%	4.9%	0.4%	0.92
Window 117	Non Domestic	8.3%	7.6%	0.7%	0.92
Window 118	Non Domestic	8.6%	7.8%	0.8%	0.91
Window 119	Non Domestic	8.7%	7.7%	1.0%	0.89
Window 120	Non Domestic	8.6%	7.5%	1.1%	0.87
Window 121	Non Domestic	8.8%	8.0%	0.8%	0.91
Window 122	Non Domestic	13.0%	11.7%	1.3%	0.9
Window 123	Non Domestic	13.1%	11.6%	1.5%	0.89
Window 124	Non Domestic	13.1%	11.2%	1.9%	0.85
Window 125	Non Domestic	13.2%	11.1%	2.1%	0.84
Window 126	Non Domestic	17.0%	15.7%	1.3%	0.92
Window 127	Non Domestic	61.8%	61.2%	0.6%	0.99
Window 128	Non Domestic	60.6%	59.9%	0.7%	0.99
Window 129	Non Domestic	83.8%	83.0%	0.8%	0.99
Window 130	Non Domestic	20.0%	17.8%	2.2%	0.89
Window 131	Non Domestic	19.2%	16.6%	2.6%	0.86
Window 132	Non Domestic	95.6%	94.4%	1.2%	0.99
Window 133	Non Domestic	19.0%	15.7%	3.3%	0.83
Window 134	Non Domestic	19.1%	15.6%	3.5%	0.82
Window 135	Non Domestic	96.5%	95.1%	1.4%	0.99
81 to 103 Euston Street					
Window 136	Non Domestic	3.3%	2.7%	0.6%	0.82
Window 137	Non Domestic	7.3%	6.2%	1.1%	0.85
Window 138	Non Domestic	8.6%	7.1%	1.5%	0.83
Window 139	Non Domestic	12.4%	10.4%	2.0%	0.84
Window 140	Non Domestic	21.6%	18.1%	3.5%	0.84
Window 141	Non Domestic	4.8%	4.4%	0.4%	0.92
Window 142	Non Domestic	6.6%	5.9%	0.7%	0.89
Window 143	Non Domestic	9.9%	8.7%	1.2%	0.88
Window 144	Non Domestic	15.2%	13.1%	2.1%	0.86
Window 145	Non Domestic	5.4%	5.0%	0.4%	0.93
Window 146	Non Domestic	7.2%	6.6%	0.6%	0.92
Window 147	Non Domestic	10.6%	9.5%	1.1%	0.9
Window 148	Non Domestic	15.9%	13.9%	2.0%	0.87
Window 149	Non Domestic	23.1%	19.9%	3.2%	0.86

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 150	Non Domestic	3.8%	3.6%	0.2%	0.95
Window 151	Non Domestic	7.0%	6.5%	0.5%	0.93
Window 152	Non Domestic	7.3%	6.8%	0.5%	0.93
Window 153	Non Domestic	10.8%	9.9%	0.9%	0.92
Window 154	Non Domestic	16.2%	14.6%	1.6%	0.9
Window 155	Non Domestic	5.1%	4.8%	0.3%	0.94
Window 156	Non Domestic	7.0%	6.5%	0.5%	0.93
Window 157	Non Domestic	10.6%	9.8%	0.8%	0.92
Window 158	Non Domestic	16.3%	15.1%	1.2%	0.93
Window 159	Non Domestic	24.4%	22.6%	1.8%	0.93
Window 160	Non Domestic	4.4%	4.2%	0.2%	0.95
Window 161	Non Domestic	6.0%	5.7%	0.3%	0.95
Window 162	Non Domestic	9.3%	8.7%	0.6%	0.94
Window 163	Non Domestic	15.0%	14.1%	0.9%	0.94
Window 164	Non Domestic	23.3%	21.9%	1.4%	0.94
Window 165	Non Domestic	0.8%	0.8%	0.0%	1.0
Window 166	Non Domestic	4.6%	4.4%	0.2%	0.96
Window 167	Non Domestic	6.9%	6.5%	0.4%	0.94
Window 168	Non Domestic	11.0%	10.4%	0.6%	0.95
Window 169	Non Domestic	15.5%	14.5%	1.0%	0.94
Window 170	Non Domestic	27.3%	26.9%	0.4%	0.99
Window 171	Non Domestic	8.2%	7.9%	0.3%	0.96
Window 172	Non Domestic	9.4%	9.2%	0.2%	0.98
Window 173	Non Domestic	9.9%	9.8%	0.1%	0.99
Window 174	Non Domestic	11.3%	10.8%	0.5%	0.96
Window 175	Non Domestic	15.1%	14.4%	0.7%	0.95
Window 176	Non Domestic	11.4%	11.2%	0.2%	0.98
Window 177	Non Domestic	15.0%	14.7%	0.3%	0.98
22 Stephenson Way					
Window 178	Non Domestic	3.2%	3.2%	0.0%	1.0
Window 179	Non Domestic	5.0%	5.0%	0.0%	1.0
Window 180	Non Domestic	8.2%	8.2%	0.0%	1.0
Window 181	Non Domestic	15.6%	15.6%	0.0%	1.0
Window 182	Non Domestic	3.7%	3.7%	0.0%	1.0
Window 183	Non Domestic	6.0%	6.0%	0.0%	1.0
Window 184	Non Domestic	9.9%	9.9%	0.0%	1.0
Window 185	Non Domestic	18.5%	18.5%	0.0%	1.0
Window 186	Non Domestic	4.1%	4.1%	0.0%	1.0
Window 187	Non Domestic	6.4%	6.4%	0.0%	1.0
Window 188	Non Domestic	10.5%	10.5%	0.0%	1.0
Window 189	Non Domestic	19.2%	19.2%	0.0%	1.0

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 190	Non Domestic	4.2%	4.2%	0.0%	1.0
Window 191	Non Domestic	6.5%	6.5%	0.0%	1.0
Window 192	Non Domestic	10.4%	10.4%	0.0%	1.0
Window 193	Non Domestic	18.9%	18.9%	0.0%	1.0
Window 194	Non Domestic	4.1%	4.1%	0.0%	1.0
Window 195	Non Domestic	6.2%	6.2%	0.0%	1.0
Window 196	Non Domestic	9.7%	9.7%	0.0%	1.0
Window 197	Non Domestic	17.5%	17.5%	0.0%	1.0
Window 198	Non Domestic	3.8%	3.8%	0.0%	1.0
Window 199	Non Domestic	5.6%	5.6%	0.0%	1.0
Window 200	Non Domestic	8.6%	8.6%	0.0%	1.0
Window 201	Non Domestic	15.6%	15.5%	0.1%	0.99
18 to 20 Stephenson Way					
Window 202	Non Domestic	6.7%	6.7%	0.0%	1.0
Window 203	Non Domestic	11.1%	11.1%	0.0%	1.0
Window 204	Non Domestic	17.7%	17.7%	0.0%	1.0
Window 205	Non Domestic	23.6%	23.6%	0.0%	1.0
Window 206	Non Domestic	8.1%	8.1%	0.0%	1.0
Window 207	Non Domestic	13.7%	13.7%	0.0%	1.0
Window 208	Non Domestic	22.4%	22.4%	0.0%	1.0
Window 209	Non Domestic	30.2%	30.2%	0.0%	1.0
Window 210	Non Domestic	9.3%	9.3%	0.0%	1.0
Window 211	Non Domestic	15.8%	15.8%	0.0%	1.0
Window 212	Non Domestic	25.7%	25.7%	0.0%	1.0
Window 213	Non Domestic	33.5%	33.5%	0.0%	1.0
Window 214	Non Domestic	9.9%	9.9%	0.0%	1.0
Window 215	Non Domestic	17.3%	17.3%	0.0%	1.0
Window 216	Non Domestic	27.7%	27.7%	0.0%	1.0
Window 217	Non Domestic	35.1%	35.1%	0.0%	1.0
Window 218	Non Domestic	10.7%	10.7%	0.0%	1.0
Window 219	Non Domestic	18.0%	18.0%	0.0%	1.0
Window 220	Non Domestic	28.6%	28.6%	0.0%	1.0
Window 221	Non Domestic	35.8%	35.8%	0.0%	1.0
Window 222	Non Domestic	11.1%	11.1%	0.0%	1.0
Window 223	Non Domestic	18.6%	18.6%	0.0%	1.0
Window 224	Non Domestic	29.1%	29.1%	0.0%	1.0
Window 225	Non Domestic	36.2%	36.2%	0.0%	1.0
Window 226	Non Domestic	11.9%	11.9%	0.0%	1.0
Window 227	Non Domestic	19.2%	19.2%	0.0%	1.0
Window 228	Non Domestic	29.5%	29.5%	0.0%	1.0
Window 229	Non Domestic	36.3%	36.2%	0.1%	1.0

Appendix 2 - Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
Window 230	Non Domestic	12.5%	12.5%	0.0%	1.0
Window 231	Non Domestic	18.8%	18.8%	0.0%	1.0
Window 232	Non Domestic	28.4%	28.4%	0.0%	1.0
Window 233	Non Domestic	35.4%	35.3%	0.1%	1.0

Appendix 2 - Sunlight to Windows
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
117 Euston Street									
Window 86	Non Domestic	4%	2%	2%	0.5	0%	0%	0%	1.0
Window 87	Non Domestic	20%	20%	0%	1.0	0%	0%	0%	1.0
Window 88	Non Domestic	50%	49%	1%	0.98	9%	9%	0%	1.0
115 Euston Street									
Window 89	Non Domestic	13%	13%	0%	1.0	1%	1%	0%	1.0
Window 90	Non Domestic	27%	27%	0%	1.0	4%	4%	0%	1.0
Window 91	Non Domestic	53%	53%	0%	1.0	14%	14%	0%	1.0
Window 92	Non Domestic	11%	11%	0%	1.0	1%	1%	0%	1.0
Window 93	Non Domestic	23%	23%	0%	1.0	2%	2%	0%	1.0
Window 94	Non Domestic	45%	45%	0%	1.0	12%	12%	0%	1.0
105 to 111 Euston Street									
Window 99	Non Domestic	16%	16%	0%	1.0	2%	2%	0%	1.0
Window 101	Non Domestic	28%	27%	1%	0.96	5%	5%	0%	1.0
Window 103	Non Domestic	45%	43%	2%	0.96	15%	15%	0%	1.0
Window 105	Non Domestic	6%	6%	0%	1.0	0%	0%	0%	1.0
Window 106	Non Domestic	7%	7%	0%	1.0	0%	0%	0%	1.0
Window 107	Non Domestic	6%	6%	0%	1.0	0%	0%	0%	1.0
Window 108	Non Domestic	7%	7%	0%	1.0	0%	0%	0%	1.0
Window 109	Non Domestic	7%	7%	0%	1.0	0%	0%	0%	1.0
Window 110	Non Domestic	7%	7%	0%	1.0	0%	0%	0%	1.0
Window 111	Non Domestic	2%	2%	0%	1.0	0%	0%	0%	1.0
Window 112	Non Domestic	6%	6%	0%	1.0	0%	0%	0%	1.0
Window 113	Non Domestic	7%	7%	0%	1.0	1%	1%	0%	1.0
Window 114	Non Domestic	9%	8%	1%	0.89	0%	0%	0%	1.0
Window 115	Non Domestic	11%	12%	-1%	1.09	0%	0%	0%	1.0
Window 116	Non Domestic	3%	3%	0%	1.0	0%	0%	0%	1.0
Window 117	Non Domestic	8%	8%	0%	1.0	0%	0%	0%	1.0
Window 118	Non Domestic	13%	12%	1%	0.92	2%	2%	0%	1.0
Window 119	Non Domestic	15%	13%	2%	0.87	1%	1%	0%	1.0
Window 120	Non Domestic	17%	15%	2%	0.88	1%	1%	0%	1.0
Window 121	Non Domestic	6%	6%	0%	1.0	0%	0%	0%	1.0
Window 122	Non Domestic	20%	19%	1%	0.95	3%	3%	0%	1.0
Window 123	Non Domestic	27%	26%	1%	0.96	5%	5%	0%	1.0
Window 124	Non Domestic	26%	23%	3%	0.88	3%	3%	0%	1.0
Window 125	Non Domestic	29%	25%	4%	0.86	5%	5%	0%	1.0
Window 126	Non Domestic	32%	26%	6%	0.81	4%	4%	0%	1.0
Window 127	Non Domestic	81%	80%	1%	0.99	22%	21%	1%	0.95
Window 128	Non Domestic	75%	73%	2%	0.97	20%	20%	0%	1.0
Window 129	Non Domestic	79%	78%	1%	0.99	21%	21%	0%	1.0

Appendix 2 - Sunlight to Windows

24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 130	Non Domestic	50%	41%	9%	0.82	11%	11%	0%	1.0
Window 131	Non Domestic	51%	42%	9%	0.82	11%	11%	0%	1.0
Window 132	Non Domestic	81%	79%	2%	0.98	17%	16%	1%	0.94
Window 133	Non Domestic	47%	37%	10%	0.79	6%	6%	0%	1.0
Window 134	Non Domestic	48%	38%	10%	0.79	6%	6%	0%	1.0
Window 135	Non Domestic	85%	82%	3%	0.96	17%	16%	1%	0.94
81 to 103 Euston Street									
Window 136	Non Domestic	3%	2%	1%	0.67	0%	0%	0%	1.0
Window 137	Non Domestic	6%	4%	2%	0.67	0%	0%	0%	1.0
Window 138	Non Domestic	12%	8%	4%	0.67	0%	0%	0%	1.0
Window 139	Non Domestic	24%	17%	7%	0.71	0%	0%	0%	1.0
Window 140	Non Domestic	53%	44%	9%	0.83	6%	3%	3%	0.5
Window 141	Non Domestic	3%	2%	1%	0.67	0%	0%	0%	1.0
Window 142	Non Domestic	6%	4%	2%	0.67	0%	0%	0%	1.0
Window 143	Non Domestic	13%	11%	2%	0.85	0%	0%	0%	1.0
Window 144	Non Domestic	35%	29%	6%	0.83	1%	1%	0%	1.0
Window 145	Non Domestic	7%	6%	1%	0.86	0%	0%	0%	1.0
Window 146	Non Domestic	11%	9%	2%	0.82	0%	0%	0%	1.0
Window 147	Non Domestic	17%	15%	2%	0.88	0%	0%	0%	1.0
Window 148	Non Domestic	40%	36%	4%	0.9	2%	2%	0%	1.0
Window 149	Non Domestic	59%	52%	7%	0.88	11%	7%	4%	0.64
Window 150	Non Domestic	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 151	Non Domestic	12%	10%	2%	0.83	0%	0%	0%	1.0
Window 152	Non Domestic	15%	12%	3%	0.8	1%	1%	0%	1.0
Window 153	Non Domestic	21%	19%	2%	0.9	2%	1%	1%	0.5
Window 154	Non Domestic	41%	38%	3%	0.93	5%	4%	1%	0.8
Window 155	Non Domestic	11%	10%	1%	0.91	0%	0%	0%	1.0
Window 156	Non Domestic	15%	12%	3%	0.8	0%	0%	0%	1.0
Window 157	Non Domestic	24%	22%	2%	0.92	3%	2%	1%	0.67
Window 158	Non Domestic	41%	40%	1%	0.98	5%	4%	1%	0.8
Window 159	Non Domestic	59%	55%	4%	0.93	12%	8%	4%	0.67
Window 160	Non Domestic	13%	13%	0%	1.0	2%	2%	0%	1.0
Window 161	Non Domestic	18%	16%	2%	0.89	2%	2%	0%	1.0
Window 162	Non Domestic	24%	23%	1%	0.96	4%	3%	1%	0.75
Window 163	Non Domestic	38%	36%	2%	0.95	5%	4%	1%	0.8
Window 164	Non Domestic	56%	54%	2%	0.96	11%	9%	2%	0.82
Window 165	Non Domestic	7%	7%	0%	1.0	1%	1%	0%	1.0
Window 166	Non Domestic	18%	16%	2%	0.89	2%	2%	0%	1.0
Window 167	Non Domestic	22%	21%	1%	0.95	3%	2%	1%	0.67
Window 168	Non Domestic	31%	30%	1%	0.97	4%	3%	1%	0.75
Window 169	Non Domestic	41%	40%	1%	0.98	12%	11%	1%	0.92

Appendix 2 - Sunlight to Windows
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Sunlight to Windows							
		Total Sunlight Hours				Winter Sunlight Hours			
		Before	After	Loss	Ratio	Before	After	Loss	Ratio
Window 170	Non Domestic	10%	10%	0%	1.0	1%	1%	0%	1.0
Window 171	Non Domestic	17%	15%	2%	0.88	2%	2%	0%	1.0
Window 172	Non Domestic	12%	12%	0%	1.0	1%	1%	0%	1.0
Window 173	Non Domestic	11%	11%	0%	1.0	0%	0%	0%	1.0
Window 174	Non Domestic	23%	22%	1%	0.96	2%	2%	0%	1.0
Window 175	Non Domestic	28%	26%	2%	0.93	3%	2%	1%	0.67
Window 176	Non Domestic	14%	14%	0%	1.0	0%	0%	0%	1.0
Window 177	Non Domestic	21%	20%	1%	0.95	1%	1%	0%	1.0
22 Stephenson Way									
Window 178	Non Domestic	0%	0%	0%	1.0	0%	0%	0%	1.0
Window 179	Non Domestic	2%	2%	0%	1.0	0%	0%	0%	1.0
Window 180	Non Domestic	6%	6%	0%	1.0	0%	0%	0%	1.0
Window 181	Non Domestic	27%	27%	0%	1.0	0%	0%	0%	1.0
Window 182	Non Domestic	1%	1%	0%	1.0	0%	0%	0%	1.0
Window 183	Non Domestic	5%	5%	0%	1.0	0%	0%	0%	1.0
Window 184	Non Domestic	14%	14%	0%	1.0	0%	0%	0%	1.0
Window 185	Non Domestic	39%	39%	0%	1.0	2%	2%	0%	1.0
Window 186	Non Domestic	3%	3%	0%	1.0	0%	0%	0%	1.0
Window 187	Non Domestic	9%	9%	0%	1.0	0%	0%	0%	1.0
Window 188	Non Domestic	17%	17%	0%	1.0	0%	0%	0%	1.0
Window 189	Non Domestic	42%	42%	0%	1.0	4%	4%	0%	1.0
Window 190	Non Domestic	8%	8%	0%	1.0	0%	0%	0%	1.0
Window 191	Non Domestic	13%	13%	0%	1.0	0%	0%	0%	1.0
Window 192	Non Domestic	22%	22%	0%	1.0	1%	1%	0%	1.0
Window 193	Non Domestic	41%	41%	0%	1.0	6%	6%	0%	1.0
Window 194	Non Domestic	10%	10%	0%	1.0	0%	0%	0%	1.0
Window 195	Non Domestic	15%	15%	0%	1.0	0%	0%	0%	1.0
Window 196	Non Domestic	21%	21%	0%	1.0	1%	1%	0%	1.0
Window 197	Non Domestic	38%	38%	0%	1.0	7%	7%	0%	1.0
Window 198	Non Domestic	10%	10%	0%	1.0	0%	0%	0%	1.0
Window 199	Non Domestic	15%	15%	0%	1.0	0%	0%	0%	1.0
Window 200	Non Domestic	21%	21%	0%	1.0	2%	2%	0%	1.0
Window 201	Non Domestic	34%	34%	0%	1.0	7%	7%	0%	1.0

APPENDIX 3

ALTERNATIVE VERTICAL SKY COMPONENT RESULTS

Appendix 3 - Alternative Vertical Sky Component
24 to 32 Stephenson Way, London NW1 2HD

Reference	Use Class	Vertical Sky Component			
		Before	After	Loss	Ratio
162 North Gower Street					
Window 32	Domestic	20.3%	17.6%	2.7%	0.87
Window 45	Domestic	29.7%	26.8%	2.9%	0.9